

## OIB - DC-8 11/16/14 Science Report

**Aircraft:**

[DC-8](#) ([See full schedule](#))

**Date:**

Sunday, November 16, 2014

**Mission:**

OIB

**Mission Location:**

Antarctica

**Mission Summary:**

### F20 Alexander-Fleming 01

**Accomplishments**

- Low-altitude survey (1,500 ft AGL) over Alexander Island and Fleming Glacier.
- ATM, albedo, KT-19, snow, Ku-band, MCoRDS, gravimeter, and DMS were operated on the survey lines.
- Elevation maneuvers (aka pitch maneuvers) over sea ice for snow and Ku-band radar validation.
- Ramp pass at Punta Arenas airport after takeoff at 1,500 ft AGL (missed part of the ramp).
- Satellite tracks: ICESat-1: 0212, 1313, 0293, 0412.
- Repeat Mission: Alexander and Wilkins portion in 2011.

Instrument	Operated	Data Volume	Instrument Issues/Comments
ATM	yes	50 GB	None.
CAMBOT	yes	71 GB	None.
DMS	yes	57 GB	None.
Snow Radar	yes	609 GB	None.
Ku-band Radar	yes	609 GB	None.
MCoRDS	yes	1.8 TB	None.
KT-19	yes	10 MB	None.
Albedo	yes	4.4 GB	None.
Albedo camera	yes	480 MB	None.
Gravimeter	yes	1.8 GB	None.

**Mission Report (Michael Studinger, Mission Scientist)**

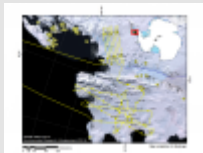
Today's flight is primarily a repeat flight, designed to measure  $dh/dt$  over the Wilkins Ice Shelf and Alexander Island along flight lines first established during the 2008 NASA-Chilean effort, with the IceSat-1 tracks over Wilkins added during a 2011 IceBridge flight. We also add a six-line, 10 km grid over the Fleming Glacier and remnant Wordie Ice Shelf, also for  $dh/dt$  purposes.

We did not have any satellite imagery this morning and made the decision to fly based on the AMPS and GFS models and advice from the forecaster in Punta Arenas. Both the AMPS and the GFS model (which is used by the weather office) failed to predict a widespread cloud layer between 7000 and 3500 ft, which made it very difficult for us to fly the survey. We managed to collect data over almost the entire mission plan except for about 35 minutes on the survey line and 15 minutes during the descent.

LiDAR data collection started 11/16/2014 14:30 UTC and ended at 20:36 UTC. In total we collected 6.1 hours of LiDAR data, of which a total of about 50 minutes was lost to clouds.

**Images:**

**Figure 1: Today's trajectory in yellow.**



[Read more](#)

**Submitted by:**

Michael Studinger on 11/16/14

**Related Flight Report:**

## DC-8 11/16/14

**Flight Number:**

150127

**Payload Configuration:**

Operation IceBridge 2014

**Nav Data Collected:**

No

**Total Flight Time:**

11.1 hours

**Submitted by:**

Chris Jennison on 11/17/14

**Flight Segments:**

<b>From:</b>	SCCI	<b>To:</b>	SCCI
<b>Start:</b>	11/16/14 11:53 Z	<b>Finish:</b>	11/16/14 22:58 Z
<b>Flight Time:</b>	11.1 hours		
<b>Log Number:</b>	<a href="#">158003</a>	<b>PI:</b>	Michael Studinger
<b>Funding Source:</b>	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
<b>Purpose of Flight:</b>	Science		
<b>Comments:</b>	Airfield pass over SCCI at 1500 ft. for ATM. Survey of Wilkins Ice Shelf and Alexander Is. Six grid lines over Fleming glacier and Wordie Ice Shelf. MCoRDS pitch cal over sea ice. All instruments recorded data. ATM LIDAR recorded 50 Gb of data, Cambot 71 Mb, ZenithCam 480 Mb, Albedo 4.4 Mb MCoRDS 1.7 Tb recorded DMS recorded 57.3 Gb Gravimeter 1.8 Gb Snow & Ku radar 609 Gb/ea. Good terrain following flight.		

**Flight Hour Summary:**

	<b>158003</b>
<b>Flight Hours Approved in SOFRS</b>	300
<b>Total Used</b>	292.1
<b>Total Remaining</b>	7.9

**158003 Flight Reports**

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
<a href="#">10/06/14</a>	150101	Science	1.2	1.2	298.8
<a href="#">10/07/14 - 10/08/14</a>	150102	Science	5.2	6.4	293.6
<a href="#">10/08/14</a>	150103	Science	3.7	10.1	289.9
<a href="#">10/13/14</a>	150104	Transit	10.4	20.5	279.5
<a href="#">10/13/14</a>	150105	Transit	3.2	23.7	276.3
<a href="#">10/16/14</a>	150106	Science	11	34.7	265.3
<a href="#">10/18/14 - 10/19/14</a>	150107	Science	11.9	46.6	253.4
<a href="#">10/20/14</a>	150108	Science	11.7	58.3	241.7

<a href="#">10/23/14</a>	150109	Science	11.8	70.1	229.9
<a href="#">10/25/14</a>	150110	Science	11.4	81.5	218.5
<a href="#">10/26/14 - 10/27/14</a>	150111	Science	11.9	93.4	206.6
<a href="#">10/28/14</a>	150112	Science	11.5	104.9	195.1
<a href="#">10/29/14</a>	150113	Science	10.9	115.8	184.2
<a href="#">10/31/14</a>	150114	Maintenance	2.8	118.6	181.4
<a href="#">11/01/14</a>	150115	Maintenance	3	121.6	178.4
<a href="#">11/02/14</a>	150116	Science	10.9	132.5	167.5
<a href="#">11/03/14</a>	150117	Science	11.1	143.6	156.4
<a href="#">11/05/14</a>	150118	Science	11.4	155	145
<a href="#">11/06/14</a>	150119	Science	11.1	166.1	133.9
<a href="#">11/07/14</a>	150120	Science	10.9	177	123
<a href="#">11/08/14</a>	150121	Science	11.4	188.4	111.6
<a href="#">11/10/14</a>	150122	Science	11.2	199.6	100.4
<a href="#">11/11/14</a>	150123	Science	11.2	210.8	89.2
<a href="#">11/13/14</a>	150124	Science	11.4	222.2	77.8
<a href="#">11/14/14</a>	150125	Science	11.5	233.7	66.3
<a href="#">11/15/14</a>	150126	Science	11.2	244.9	55.1
<a href="#">11/16/14</a>	150127	Science	11.1	256	44
<a href="#">11/21/14</a>	150128	Science	11.2	267.2	32.8
<a href="#">11/22/14</a>	150129	Science	10.8	278	22
<a href="#">11/24/14</a>	150130	Transit	2.9	280.9	19.1
<a href="#">11/25/14 - 11/26/14</a>	150131	Transit	11.2	292.1	7.9

*Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.*

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